REMARKS

The Office Action of May 13, 2008 has been reviewed and the Examiner's comments carefully considered. The present Amendment modifies claims 26, 27 and 29, all in accordance with the originally filed specification. No new matter has been added. Claims 26-50 are pending in this application, and claim 26 is in independent form.

Claim 26 has been amended to address the Examiner's claim objection, as described in the "Claim Objections" section, below. Because "*varied* musculoskeletal parameters" is no longer set forth in claim 26, claim 27 has now been amended to require that a varied musculoskeletal parameter is obtained by varying at least one of the individual musculoskeletal parameters. Specifically, from the set of individual musculoskeletal parameters at least one is varied and then the process according to steps (c) and (d) of claim 26 is repeated using this varied musculoskeletal parameter instead of the original individual musculoskeletal parameter determined on the patient. Claim 29 has been amended for antecedent basis purposes.

The limitation "and automatically deriving anthropometric parameters from a system for computer-assisted surgery" has been deleted from claim 26 and has been incorporated as new dependent claim 50. Specifically, as discussed in the summary of the invention, below, it is not necessary to perform both steps, namely determining individual musculoskeletal parameters of the patient *and* automatically deriving anthropometric parameters from a system for computer-assisted surgery. In other words, the latter is not necessary. The individual musculoskeletal parameters can be determined in any way and one of these ways may be the automatic derivation of anthropometric parameters from a system for computer-assisted surgery. In the original claim 1 of this application, step (a) required "determination of individual musculoskeletal parameters of the patient, particularly, by automatic measurement of anthropometric parameters...". This limitation clearly shows that this is not an additional step to the determination of the individual musculoskeletal parameters, but just one method of obtaining these individual musculoskeletal parameters.

Claim Objections

The Examiner objects to various claims due to the lack of an antecedent basis in underlying claim 26. Applicants have deleted in step (b) the word "the" in front of

"individual musculoskeletal strains" and in step (c) the words "and varied". Reconsideration of these objections is respectfully requested.

35 U.S.C. §112 Rejections

Claims 26-49 stand rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness, as the Examiner contends that claim 26 contains ambiguous language. Specifically, the Examiner asserts that three different interpretations may result from the limitation: "musculoskeletal reference strains corresponding to the musculoskeletal reference parameters are determined as the individual musculoskeletal strains." Based upon the specification and claims, the musculoskeletal reference strains are to be construed to be the same as the individual musculoskeletal strains. Thereby, individual musculoskeletal strains can be related to the individual musculoskeletal parameters by using the related values stored in the database.

For the Examiner's convenience, Applicants wish to summarize the invention, as embodied in claim 26 and with reference to the corresponding published application. The first step of the method is the determination of individual musculoskeletal parameters of the patient. Different methods can be used for such a determination, especially anthropometric data can be used for the determination of these individual musculoskeletal parameters. (See paragraphs [0031] to [0033]). These individual muscular skeletal parameters are then compared with musculoskeletal reference parameters, which are contained in a strain database. This database contains musculoskeletal reference parameters being present as discrete values and corresponding to musculoskeletal reference strains, which are also stored in the database. According to the next claimed step, a relationship is established between the individual musculoskeletal parameters of the patient and the musculoskeletal reference parameters stored in the database. This functional relationship allows a special individual musculoskeletal parameter to be related exactly to one musculoskeletal reference parameter in the database. After establishing this relationship, it is assumed that the musculoskeletal reference strains corresponding to the musculoskeletal reference parameters and being stored in the database are the same as the individual musculoskeletal strains corresponding to the individual musculoskeletal parameters. Therefore, the musculoskeletal reference strains are the same as the individual musculoskeletal strains. In the last step, these individual musculoskeletal strains are evaluated with respect to at least one target criterion.

Applicants also hereby provide an explanation of the claim terminology, which is already clearly defined in the application. Individual musculoskeletal parameters are taken from the patient in any way, one possibility is using anthropometric parameters, and these are, preferably, obtained by automatically deriving them from a system for computer-assisted surgery (*See* paragraph [0007]). Musculoskeletal reference parameters are parameters of the same kind as the individual musculoskeletal parameters, but these are stored in the database and are taken from previous experiences (*See* paragraph [0016]). Musculoskeletal reference strains are the strains related to the musculoskeletal reference parameters and being stored in the database (*See* paragraph [0016]). Individual musculoskeletal strains are the strains obtained from comparing individual musculoskeletal parameters with the musculoskeletal reference parameters and the related musculoskeletal reference strains all being stored in the database (*See* paragraph [0017]).

The Claimed Invention Defines Over The Cited Prior Art

Claims 26, 27, 31-38, and 40-49 stand rejected under 35 U.S.C. § 102(b) for anticipation by U.S. Patent No. 6,205,411 to DiGioia. The Examiner notes that this patent was cited in Applicants' previously-submitted Information Disclosure Statement; thus, Applicant is familiar with the substance and deficiencies of the method disclosed in the DiGioia patent.

The Examiner asserts that the DiGioia patent discloses a method for simulating musculoskeletal strains. However, the DiGioia patent fails to include any mention of the term "musculoskeletal strains," or even "strains" for that matter. The DiGioia patent concerns itself with the simulation of the range of motion. Specifically, the DiGioia patent discloses a determination of individual musculoskeletal parameters of the patient, and, using these together with a geometric model (*See* column 7, lines 11 to 18), for the determination of the movement of the joint. However, there is no need to obtain values for the individual musculoskeletal strain and no reference is made to such a strain according to the method of the DiGioia patent. Furthermore, the DiGioia method does not need and does not use a database in which both musculoskeletal reference parameters and musculoskeletal reference strains corresponding to these musculoskeletal reference parameters are stored, as is required in the claimed invention. Because no such database is described, the DiGioia patent does not disclose, teach, or suggest using musculoskeletal reference strain values, assuming that these

values are identical to the individual musculoskeletal strains corresponding to a certain value of individual musculoskeletal parameters.

In contrast to the present invention, the DiGioia method must have a model of the skeletal structure in order to be able to calculate the influence of the individual musculoskeletal parameters on the movement, and especially the range of motion of the body after the implantation of the implant. This aspect is not required by the claimed invention because the values are taken from a database, as opposed to calculating these values based on a geometric model.
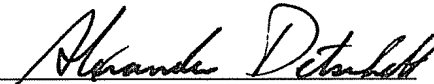
For the foregoing reasons, Applicants believe that the subject matter of independent claim 26 is not anticipated by the DiGioia patent. Dependent claims 28-30 stand rejected for obviousness over the DiGioia patent in view of asserted inherency of the claimed steps. Claims 28 and 39 stand rejected for obviousness in view of the DiGioia patent in view of United States Patent Publication Application No. 2005/0203504 to Wham et al. Claims 27-50, encompassing the claims rejected for obviousness, depend from and add further limitations to independent claim 26 and are believed to be patentable for at least the reasons discussed hereinabove in connection with independent claim 26. Applicants respectfully request that the Examiner withdraw both the anticipation and obviousness rejections.

CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 26-50 are respectfully requested.

Respectfully submitted,

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